# Coding Club Meeting 2

# Goals for this meeting

- Create a GitHub account and gain access to the Coding Club Repository
- Install Scratch and become familiar with the program
- Push a sprite from your own project to the Coding Club Repository

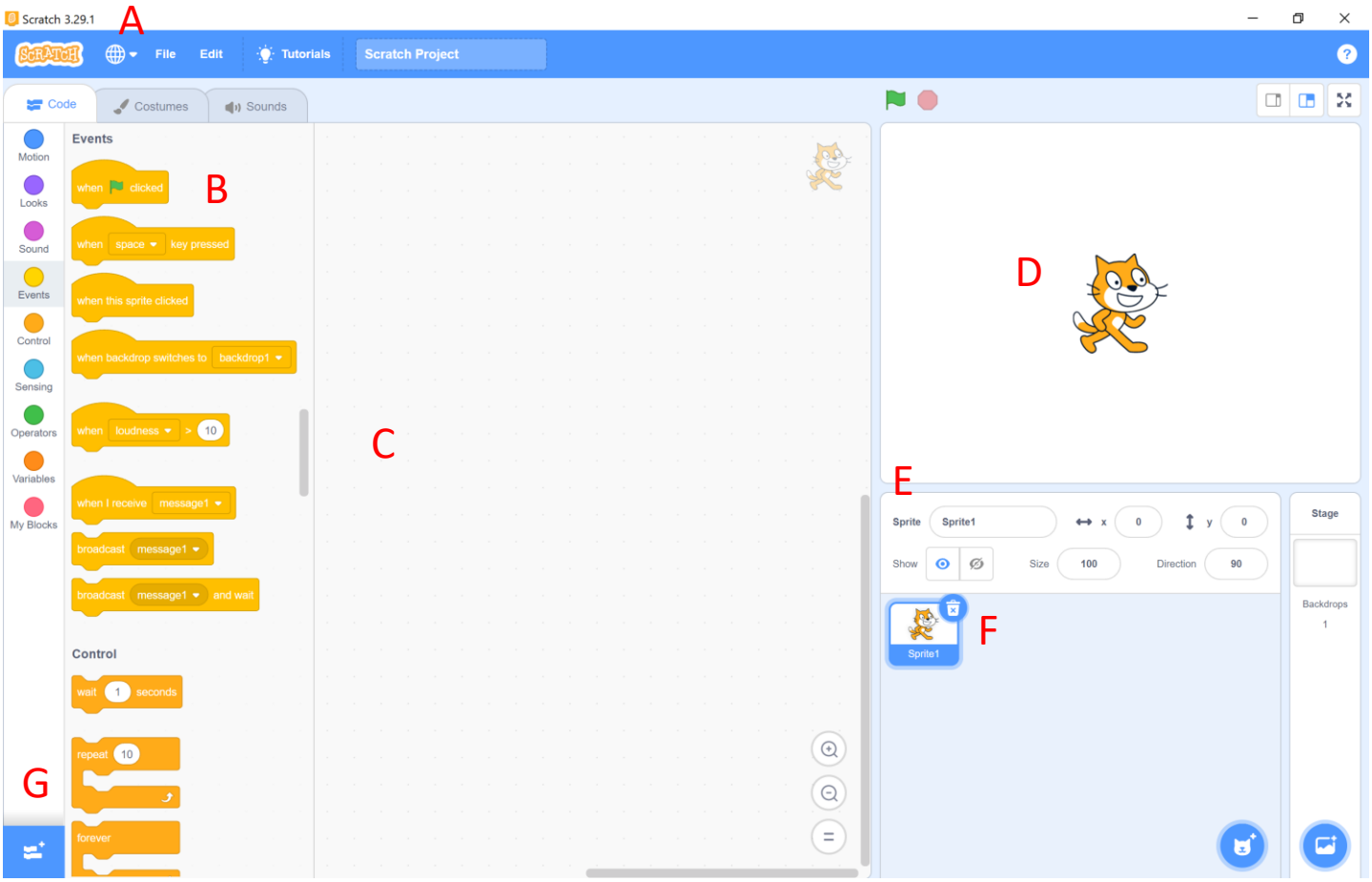
# Joining and Downloading Scratch

Scratch is a “Block Coding” program used to educate on the basic principles of programming. The program has in online editor, but since we will be working outside of the Scratch website, we will be installing the program. To do this, navigate to [https://scratch.mit.edu/download](https://scratch.mit.edu/download)


From here select your operating system and download the installer. When downloaded, run the installer and open scratch.

# Scratch Basics

With Scratch open, you can see the program layout.




A: Options and File Management
B: Scripts, Costumes, and Sounds Pages
C: Sprite Code (Where the code you make will be)
D: Stage (Where sprites exist and carry out your code)
E: Sprite Info Sheet
F: Sprites and Stage Menu
G: Add Libraries (Additional functionality for your code)

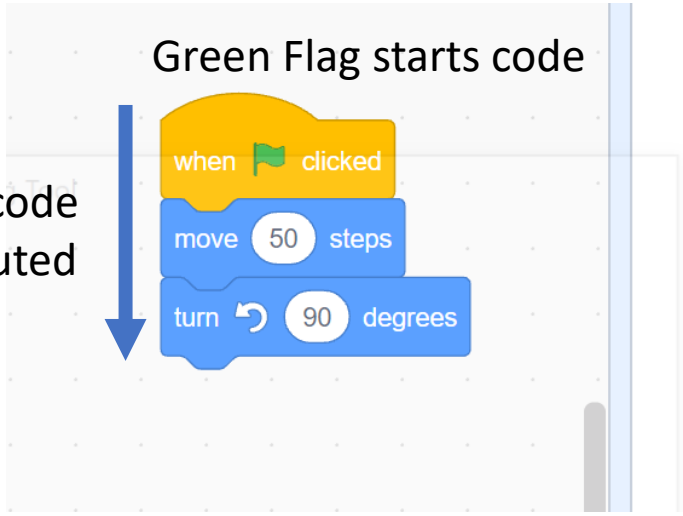
# Scratch Basics

In Scratch, objects, called sprites, have certain attributes and relationships to other sprites which you can control through the code you make (Object Oriented Coding)

Through the use of the available blocks, you can make video games, user interfaces, animations, and much more.

Coding in Scratch:
Much like any other code, the code a sprite follows is a set of instructions which the sprite will carry out in a certain order. In scratch, a code is initiated, and the computer will execute the code from the top down.

Shown below is a code for making the sprite “Move 50 Steps” and then turn 90 degrees. The code is inially started through an event which in this case is the user clicking on the “Green Flag” or start button.




# Basics of GitHub

Git is an open source software used for tracking changes in any set of files. This is particularly useful for making and editing code, and is usually used for coordinating work among programmers collaboratively.

GitHub is a service that uses git, and stores saved files on a cloud server.

Best used from the command line, GitHub allows a user to easily store data and every iteration of a code or other file. This works by having a user upload, or “Push” files to their storage locations, or repositories. Additionally, users can “Pull” files from the repository to update files on the computer

What makes this so useful is that Git will recognize files of the same name and know that these files are the same file. The program will overwrite the old one but save the past iteration in a “tree” or file history.

Though this functionality is very useful, for now we will just be using GitHub through the website and manually uploading files.

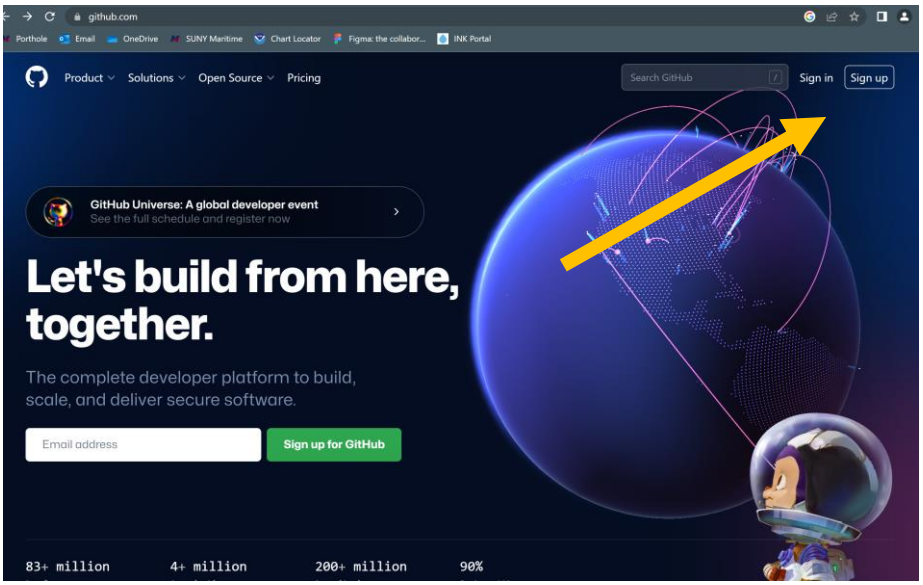
# Signing Up for GitHub

Git is an open source software used for tracking changes in any set of files. This is particularly useful for making and editing code, and is usually used for coordinating work among programmers collaboratively.

GitHub is a service that uses git, and stores saved files on a cloud server.

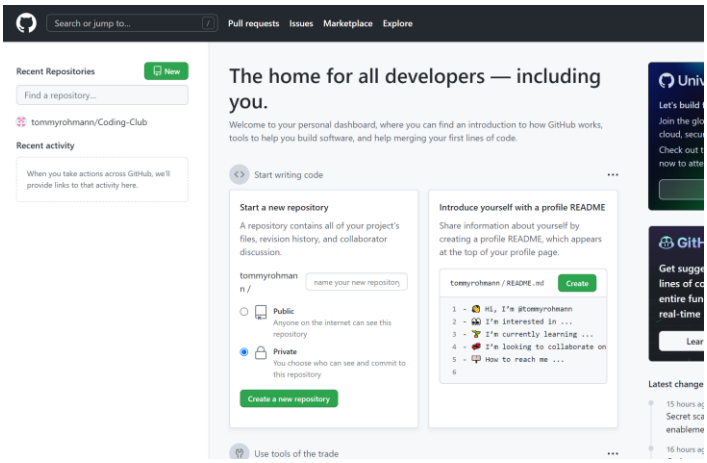
To get GitHub, first go to [https://github.com/](https://github.com/)

Click “Sign Up” at the top right corner



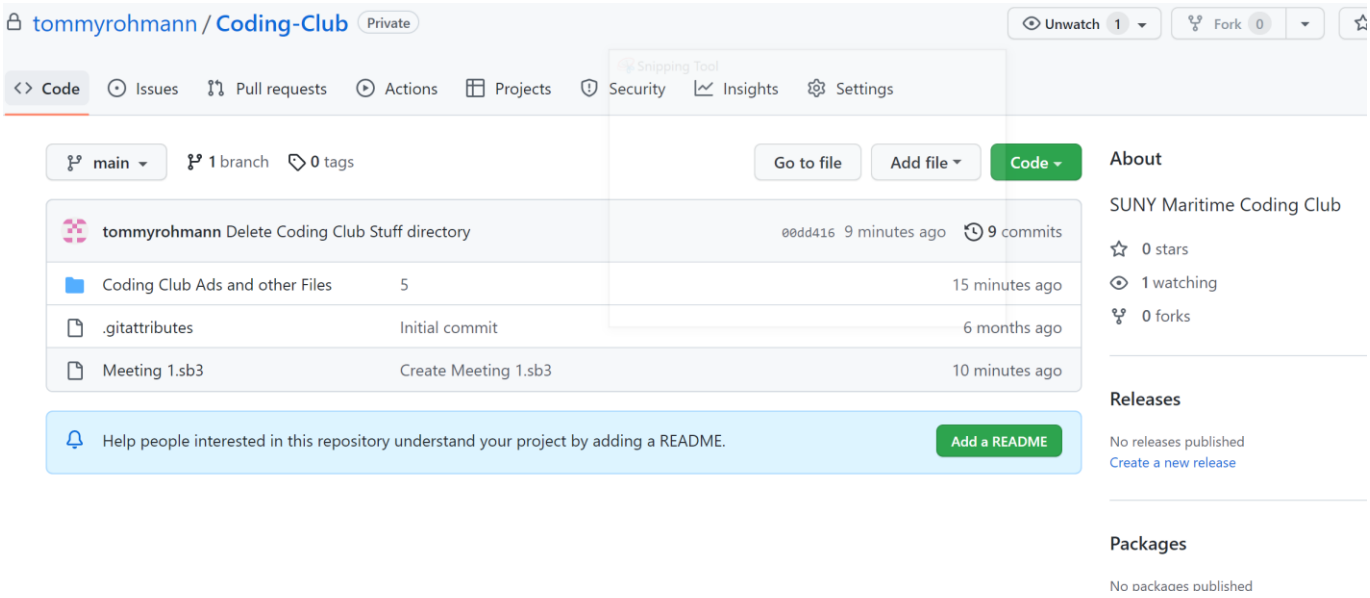

Follow the Prompt and input your relevant information to create your account

# Using GitHub




GitHub is best used through a computers terminal, but for now we will just be navigating the website. From the home page you can see all of your saved repositories and options to make new repositories.

You can also access other repositories through GitHub. For todays meeting you can access a scratch (SB3 File) called “Meeting 1” in the Coding Club Repository: [https://github.com/tommyrohmann/Coding-Club](https://github.com/tommyrohmann/Coding-Club)



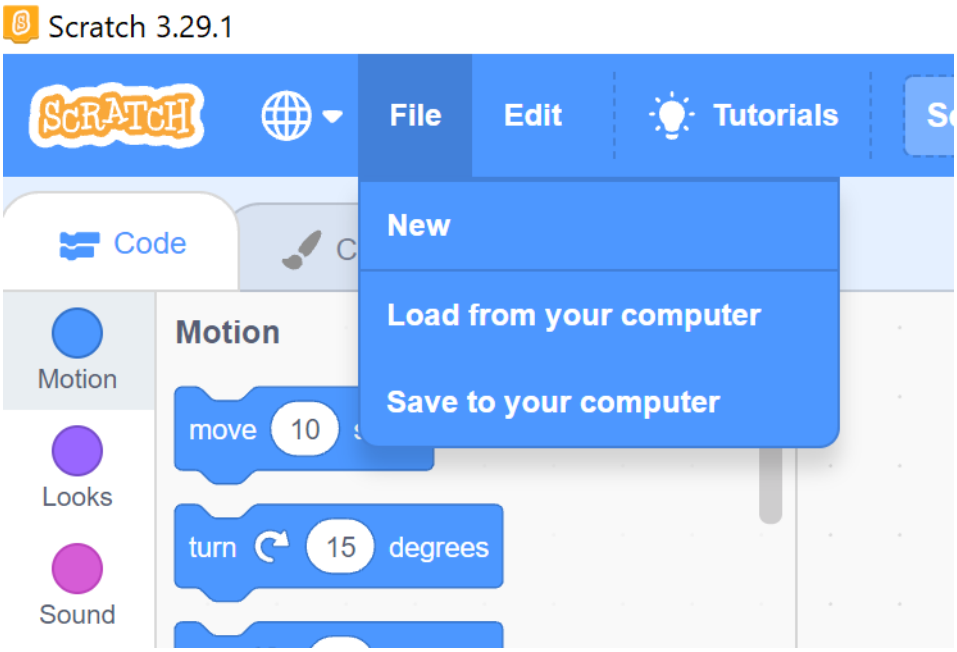
# Using GitHub

In the coding club, we will be working collaboratively on one repository. To do this, send your GitHub Username to this form to be added to as a collaborator

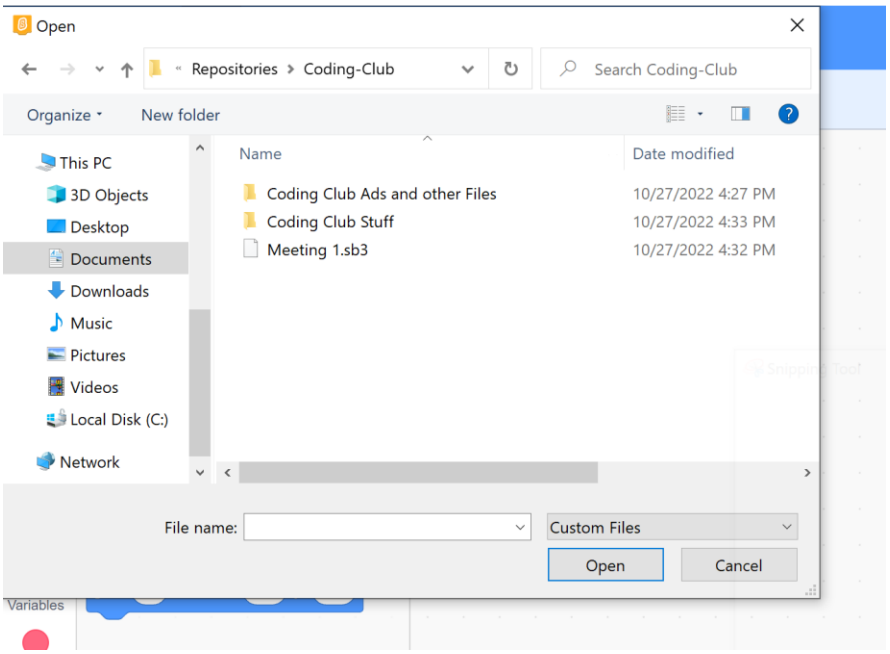
From here, you can access the Coding Club Repository from Github as a Collaborator

# First Scratch Project

Lets start by opening the file we just downloaded in scratch. To do this, got to file -> Load from your computer

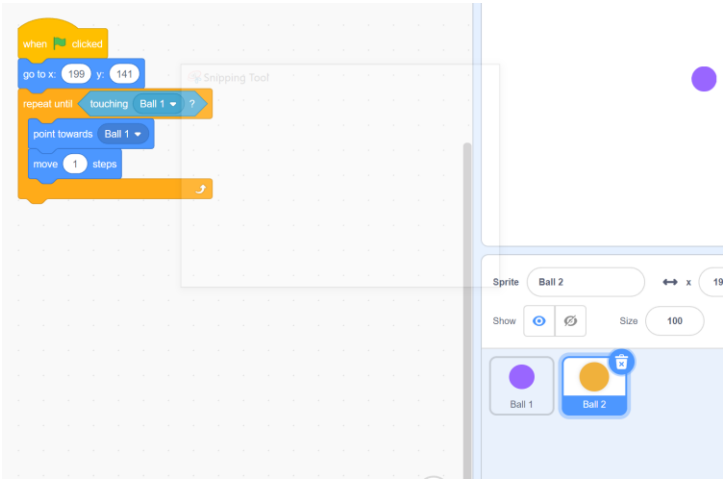



Navigate to where the file “Meeting 1” was downloaded to, select the file, and open it.



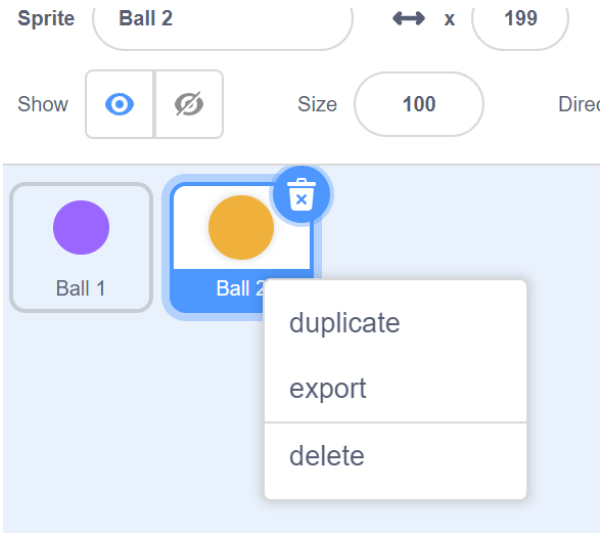
# First Scratch Project

With the code open, lets look at what it does. It has 2 sprites, Ball 1 and Ball 2. These sprites each have a code initiated when the green flag is pressed. While ball 1 will go to a fixed location and stop, Ball 2 will point towards the other ball, and move in that direction until the two balls are touching.



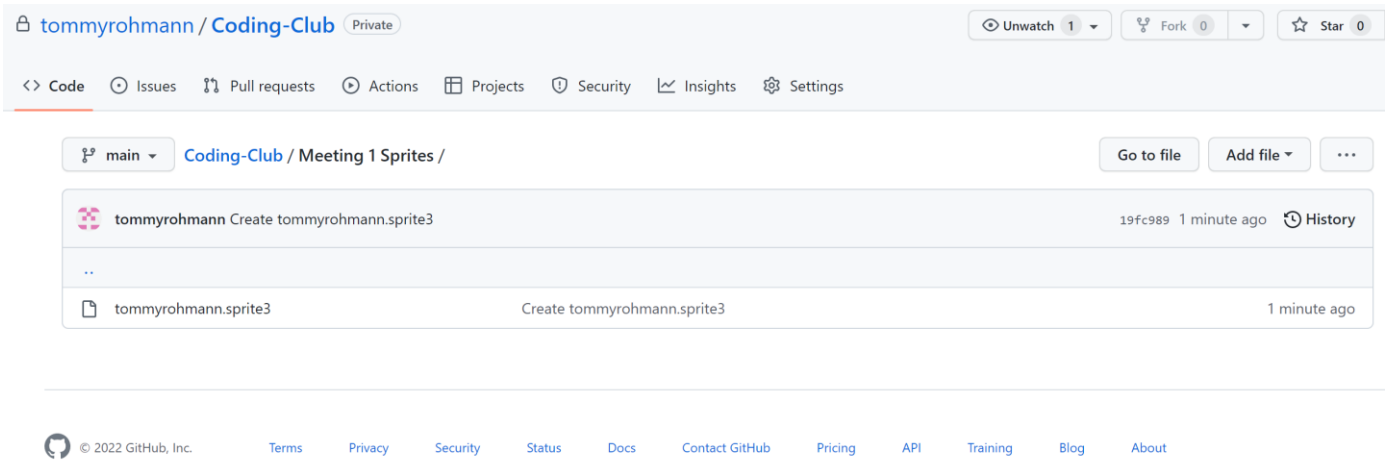

For this project, try to edit the code so that the way Ball 2 meets up with Ball 1 is different.

Once you have this new code, we will try to export the sprite Ball 2. To do this, right click the sprite, to reveal the sprite options menu, click export sprite, choose a location to save the sprite, and then name it “[Your github username]”

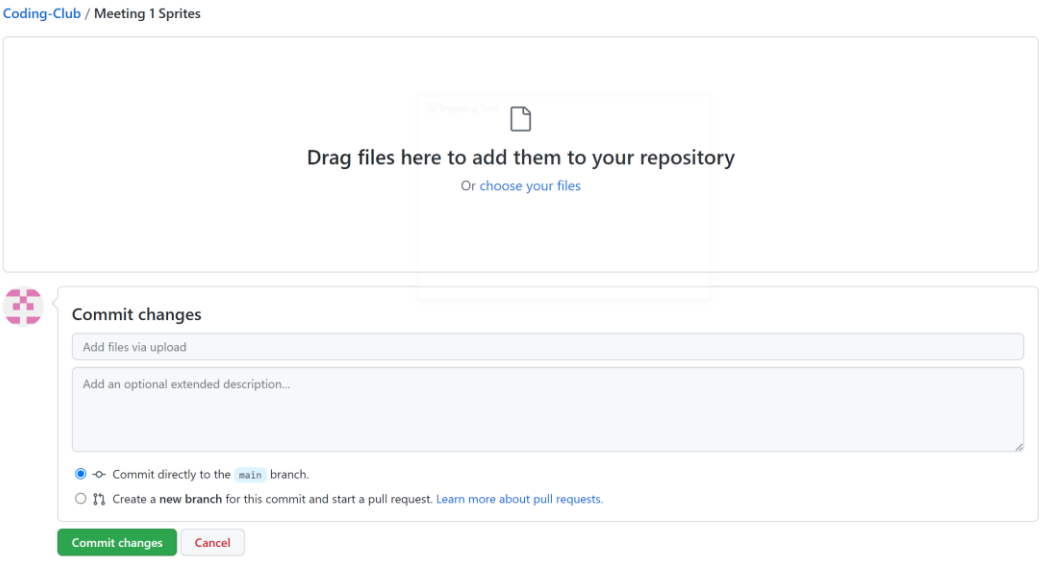


# Uploading your Sprite to Scratch

With the file saved to your computer, lets put it on the Coding Club Repository To do this, make sure you are a collaborator on GitHub, and then navigate to the “Meeting 1” Folder. Navigate into there, and then select Add File to add a new file.




From here, drag the sprite file into GitHub, and then click commit changes



# That’s All!

Thank you for coming! Any questions?